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Signature

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Our Case No. 7814/42

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of: )  
Milan Mrksich et al. )  
Serial No. 09/689,263 ) Examiner David M. Naff  
Filing Date: October 11, 2000 ) Group Art Unit No. 1651  
For SURFACE MODIFYING COMPOSITION )

**REQUEST FOR RECONSIDERATION**

Mail Stop AF  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

This communication is in response to the Office Action mailed on July 29, 2003. Applicants respectfully request that the Examiner reconsider the rejections in view of the following remarks, as set forth below.

**Remarks** begin on page 2 of this paper.

## REMARKS

### Rejections under 35 U.S.C. § 102/103

#### Rejection over Luk et al.

Claims 19-36, 41-44 and 49-58 were rejected under 35 U.S.C. § 102(a) or 103(a) over Luk et al. (*Langmuir* 2000, 16 (24), 9604-9608). The rejection of the claims over Luk et al. is respectfully traversed. Applicants again point out that the earliest publication date of this reference is October 21, 2000, which is after the filing date of the present application (October 11, 2000). This publication date is noted on the bottom of page 9604 of the reference in the statement "Published on Web 10/21/2000." This is the only publication date listed on the face of the reference.

The Office Action has made an attempt to place a burden of evidence on Applicants to prove that the earliest publication date listed on the face of the reference is, in fact, the earliest publication date. The only evidence presented in the Office Action for a publication date prior to the publication date listed on the face of the reference is a statement of conjecture, based solely on the date the manuscript was received by the publisher in final form. However, as noted in MPEP § 715(C),

A printed publication ... is effective as of its publication date, not its date of receipt by the publisher.

Attached as Appendix A is a copy of the published International Search Report (ISR) for corresponding PCT Application Publication No. WO 02/030885. This ISR cites the publication date of Luk et al. as November 28, 2000. Moreover, Applicants are filing herewith a Corrected Supplemental Information Disclosure Statement and Form PTO-1449, in which the previous typographical error regarding the publication date has been corrected. If there is any further doubt on the part of the Examiner regarding the earliest publication date of this reference, the Examiner is encouraged to contact the Scientific Reference Branch or the Biotechnology/Chemical Information Branch of the Scientific and Technical Information Center (STIC), pursuant to MPEP § 901.06(a)(IV)(G).

Accordingly, Luk et al. is not a proper reference under 35 U.S.C. § 102(a), and Applicants respectfully request that this rejection be withdrawn.

**Rejection over Chapman et al.**

Claims 19, 29, 31, 36 and 41 were rejected under 35 U.S.C. § 102(a) or 103(a) over Chapman et al. (*J. Am. Chem. Soc.* 2000, 122 (34), 8303-8304). The rejection of the claims over Chapman et al. is respectfully traversed. In the attached Declarations Pursuant to 37 CFR 1.131, the declarants, inventors Milan Mrksich and Yan Yeung Luk, state that they had completed, in the United States, the invention described and claimed in the present application prior to August 12, 2000, the earliest publication date of Chapman et al.. Accordingly, Chapman et al. is **not** a proper reference under 35 U.S.C. § 102(a), and Applicants respectfully request that this rejection be withdrawn.

**Rejections under 35 U.S.C. § 103**

**Rejection over Mrksich et al., Hodneland et al. (I), Houseman et al., Sigal et al., Deng et al., and Hodneland et al. (II)**

Claims 29, 36, 57 and 58 were rejected under 35 U.S.C. § 103(a) over Mrksich et al., in view of Hodneland et al. (I), Houseman et al. and Sigal et al., and further in view of Deng et al. and Hodneland et al. (II), with reference to the reasoning set forth in the previous Office Action (April 23, 2002; paper no. 8). The Office Action asserts that it would be obvious to select alkanethiol or alkanethiolate moieties as described in Mrksich et al. in view of the groups disclosed by the secondary references to provide a monolayer that would inherently meet the cell patterning test recitation of independent claim 29.

The rejection of the claims under 35 U.S.C. § 103(a) over Mrksich et al., Hodneland et al. (I), Houseman et al., Sigal et al., Deng et al., and Hodneland et al. (II) is respectfully traversed. The cited references, alone or in combination do not teach or suggest each and every element of the claims. Specifically, the references do not teach or suggest a monolayer comprising alkanethiolate moieties where the monolayer does not fail the cell patterning test at 12 days. In the previous Amendment And Request For Reconsideration filed on May 13, 2003 [Paper No. 4], Applicants showed that the disclosures of the references, in light of the comparative data presented in Applicants' specification, teach or suggest only moieties that fail the cell patterning test in 7 or fewer days. In response to this evidence provided from the references, the Office Action

asserts that the evidence is inadequate to establish that the alkanethiol or alkanethiolate moieties disclosed in the references fail a cell patterning test at 12 days. Applicants note that the Office Action has not refuted the validity or quality of the evidence presented. Instead, the Office Action has asserted only that the claims do not require a particular test procedure.

Applicants respectfully traverse this interpretation of the claims. The term "a cell patterning test" is clearly defined in the specification at page 12, lines 1-16. This definition of "a cell patterning test" is further exemplified in the Examples section of the specification, at least from page 18, line 1 through page 19, line 21. As noted in MPEP § 2111.01:

It is only when the specification provides definitions for terms appearing in the claims that the specification can be used in interpreting claim language. [emphasis added]

Applicants submit that the recitation of "a cell patterning test" in independent claim 29 is clearly defined in the specification, and that one of ordinary skill in the art would not be led to believe that the claim refers to any arbitrary cell patterning test.

There is thus no teaching or suggestion in any of the references cited in this rejection, either alone or in combination, of a monolayer of alkanethiolates that fails the cell patterning test in 12 or more days, as recited in the claims. Moreover, as noted in the previous Amendment And Request For Reconsideration filed on May 13, 2003, the references do not teach or suggest "preferred groups" that can be selected to provide a monolayer that meets the cell patterning test recitation of claim 29. Accordingly, claims 29, 36, 57 and 58 are not obvious over the cited references, alone or in combination.

**Rejection over Mrksich et al., Hodneland et al. (I), Houseman et al., Sigal et al., Luk et al., and Chapman et al.**

Claims 19-36, 41-44 and 49-58 were rejected under 35 U.S.C. § 103(a) over Mrksich et al., Hodneland et al. (I), Houseman et al. or Sigal et al., in view of Luk et al. or Chapman et al. This rejection of the claims under 35 U.S.C. § 103(a) is respectfully traversed. The inapplicability of Luk et al. and Chapman et al. as references against the pending claims has been addressed above. As noted in the arguments above, Mrksich

et al., Hodneland et al. (I), Houseman et al. and Sigal et al., alone or in combination, do not teach or suggest each and every element of claims 29, 36, 57 and 58. Accordingly the references, alone or in combination, are insufficient to provide a *prima facie* case of obviousness against pending claims 19-36, 41, 43, 44 and 49-58.

### Double Patenting Rejection

Claims 19-36, 41-44 and 49-58 were provisionally rejected under the judicially created doctrine of obviousness-type double patenting over claims 1-117 of U.S. Patent Application Serial No. 09/923,760 or claims 1-41 of U.S. Patent Application Serial No. 09/797,166, in view of Luk et al. or Chapman et al. The rejection of the claims under the judicially created doctrine of obviousness-type double patenting is respectfully traversed. The inapplicability of Luk et al. and Chapman et al. as references against the pending claims has been addressed above. Accordingly, there is insufficient evidence to provide a *prima facie* case of obviousness-type double patenting against pending claims 19-36, 41, 43, 44 and 49-58.

### Conclusion

In conclusion, all of the grounds raised in the outstanding Office Action for rejecting the application are believed to be overcome or rendered moot based on the amendments and remarks above. Thus, it is respectfully submitted that all of the presently presented claims are in condition for allowance. Should the Examiner feel a discussion would expedite the prosecution of this application, the Examiner is kindly invited to contact the undersigned.

Respectfully submitted,

11/25/03

  
\_\_\_\_\_  
Jonathan P. Taylor, Ph.D.  
Registration No. 48,338  
Agent for Applicant

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the Application of )  
Milan Mrksich, et al. )  
Serial No. 09/689,263 )      Examiner: David M. Naff  
Filed: October 11, 2000      )      Group Art Unit: 1651  
Title: SURFACE MODIFYING )  
COMPOSITION )

The Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313

DECLARATION PURSUANT TO 37 CFR 1.131

I, Milan Mrksich, declare as follows:

1. I am a co-inventor of the subject matter claimed in the above-identified U.S. Patent Application.
2. I am a professor of chemistry at The University of Chicago, Chicago, IL. As a professor and principal investigator for a research laboratory, I have worked in a variety of areas including the area of self-assembled monolayers (SAMs). The other co-inventor of the subject matter claimed in the above-identified U.S. Patent Application, Yan-Yeung Luk, was a graduate student working in my laboratory at The University of Chicago.
3. Prior to August 12, 2000, Yan-Yeung Luk and I had conceived and reduced to practice in the United States the invention described and claimed in the above-identified U.S. Patent Application. This completion of the invention is evidenced by the following facts:

- (a) The subject matter described in the publication "Self-Assembled Monolayers of Alkanethiolates Presenting Mannitol Groups Are Inert to Protein Adsorption and Cell Attachment" (Luk, Y-L.; Kato, M. and Mrksich, M. *Langmuir* 2000, 16, 9604-9608), a copy of which is attached, is covered by the claims in the above-identified U.S. Patent Application.
- (b) Figure 1.(B) on page 9605 of this publication illustrates a species covered by the substrate as recited in pending Claim 19.

4. The above-identified publication is substantially identical to the manuscript submitted "in final form" to the publishing journal, and this "final form" manuscript was received by the publishing journal on June 29, 2000, as evidenced by the statement above the abstract on page 9604 of the publication.

5. I declare that all statements made of my own knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the above applications or any patent granted therein.



Milan Mrksich

11/20/03

Date

TRANSMITTAL LETTER				Case No. 7814/42
Serial No. 09/689,263	Filing Date October 11, 2000	Examiner David M. Naff	Group Art Unit 1651	
Inventor(s) Milan Mrksich et al.				
Title of Invention Surface Modifying Composition				

TO THE COMMISSIONER FOR PATENTS

Transmitted herewith is Request for Reconsideration, Corrected Supplemental Information Disclosure Statement, Form - PTO-1449 with reference, Declaration of Milan Mrksich, Declaration of Yan-Yeung Luk, and return postcard.

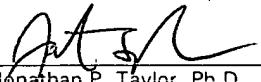
- Small entity status of this application under 37 CFR § 1.27 has been established by verified statement previously submitted.
- Applicant claims small entity status. See 37 CFR 1.27.
- Petition for a one month extension of time and \$55 check.
- No additional fee is required.
- The fee has been calculated as shown below:

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	Claims Remaining After Amendment		Highest No. Previously Paid For	Present Extra	Small Entity		Other Than Small Entity	
					Rate	Add'l Fee	Rate	Add'l Fee
Total		Minus			x \$9 =		x \$18 =	
Indep.		Minus			x 43 =		x \$86 =	
First Presentation of Multiple Dep. Claim					+ \$145 =		+ \$290 =	
					Total add'l fee	\$	Total add'l fee	\$

- Please charge Deposit Account No. 23-1925 (BRINKS HOFER GILSON & LIONE) in the amount of \$\_\_\_\_\_. A duplicate copy of this sheet is enclosed.
- A check in the amount of \$\_\_\_\_ to cover the filing fee is enclosed.
- The Commissioner is hereby authorized to charge payment of any additional filing fees required under 37 CFR § 1.16 and any patent application processing fees under 37 CFR § 1.17 associated with this communication or credit any overpayment to Deposit Account No. 23-1925. A duplicate copy of this sheet is enclosed.
- I hereby petition under 37 CFR § 1.136(a) for any extension of time required to ensure that this paper is timely filed. Please charge any associated fees which have not otherwise been paid to Deposit Account No. 23-1925. A duplicate copy of this sheet is enclosed.

Respectfully submitted,

  
 Jonathan P. Taylor, Ph.D.  
 Registration No. 48,338  
 Agent for Applicant  
 Customer No. 00757 - Brinks Hofer Gilson Lione

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 Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on November 25, 2003.

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